

ELECTRONIC TUBE REFERENCE

EM1300

Specialized - Magnetron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
MAGNETRON

Miniature magnetically shielded voltage-tunable magnetron oscillator covering 250–500 MHz and delivering at least 100 mW. Its compact magnetic circuit minimizes external magnetic field, permitting close placement near ferromagnetic materials without degrading performance.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 900 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Magnetron	
MAXIMUM PLATE VOLTAGE	2200 V
Promoted fields populated only where the published value maps directly to the schema; device-specific values retained as parameters.	

EIMAC EM1300 The EM1300 Voltage Tunable Magnetron Oscillator delivers at least 100 mw over the frequency range of 250-500 mc. This miniature magneti- cally shielded oscillator is ideally suited for applications requiring compact lightweight packaging. Its unique magnetic circuit results in negligible external magnetic field and permits the tube to contact other ferromagnetic materials with no degradation in performance.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 Eimac

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 EIMAC

Section 1 · Magnetron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
The EM1	300	The EM1300 Voltage Tunable Magnetron Oscillator delivers at least
Published value [1]	100 MHz	100 mw over the frequency range of 250-500 mc. This miniature magneti-
Published value [2]	250 MHz	100 mw over the frequency range of 250-500 mc. This miniature magneti-
Published value [3]	-500 MHz	100 mw over the frequency range of 250-500 mc. This miniature magneti-
Frequency Range - - - S T [1]	250 MHz	Frequency Range - - - S T 250-500 Mc
Frequency Range - - - S T [2]	-500 MHz	Frequency Range - - - S T 250-500 Mc
Anode Voltage [1]	920	Anode Voltage - - - - - 920-1840 V
Anode Voltage [2]	-1840	Anode Voltage - - - - - 920-1840 V
Cathode Current - - - - - ==	0.52 mA	Cathode Current - - - - - == 0.52 mA
Typical Power Output	140 mW	Typical Power Output - - - - - 140 mw
Anode FM Sensitivity	0.3 MHz	Anode FM Sensitivity - - - - - 0.3 Mc/V
Injection Anode Voltage	200 V	Injection Anode Voltage - - - - - 200 Volts
Injection Anode Current	0 mA	Injection Anode Current - - - - - 0.0 mA
Heater Voltage (ACorDC)	6.3 V	Heater Voltage (ACorDC) - - - - - 6.3 Volts
Heater Current (ACorDC)	0.9	Heater Current (ACorDC) - - - - - 0.9 Amp
Load Impedance	50	Load Impedance - - - - - 50 Ohm
Load VSWR [1]	1.1	Load VSWR - - - - - . 1.1:1
Load VSWR [2]	1	Load VSWR - - - - - . 1.1:1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power Variation - - - - - - - - - - , +	1	Power Variation - - - - - , +1db
Anode Voltage	2200	Anode Voltage - - - - - 2200Volts
Cathode Current - - - - - -« - « [1]	4 mA	Cathode Current - - - - - « - « - - - 4 - 10 mA
Cathode Current - - - - - -« - « [2]	10 mA	Cathode Current - - - - - « - « - - - 4 - 10 mA
Injection Anode Voltage	500 V	Injection Anode Voltage - - - - - 500 Volts
Injection Anode Current	0.5	Injection Anode Current - - - - - , - 0.5mA
Load VSWR - - - - - o+ o+ o« [1]	4	Load VSWR - - - - - o+ o+ o« 4 o« o o o - 31
Load VSWR - - - - - o+ o+ o« [2]	4	Load VSWR - - - - - o+ o+ o« 4 o« o o o - 31
Load VSWR - - - - - o+ o+ o« [3]	31	Load VSWR - - - - - o+ o+ o« 4 o« o o o - 31
Published value [1]	1	1. The operating frequency is a function of the A 3.050
Published value [2]	3.05	1. The operating frequency is a function of the A 3.050
anode voltage; therefore any voltage ripple € [[1]	1.3	anode voltage; therefore any voltage ripple € [1.300] 1.700
anode voltage; therefore any voltage ripple € [[2]	700	anode voltage; therefore any voltage ripple € [1.300] 1.700
on the anode supply appears as frequency : QD D	3.05	on the anode supply appears as frequency : QD D 3.050
modulation on the RF output. Fl [1]	700	modulation on the RF output. Fl .700 .900
modulation on the RF output. Fl [2]	900	modulation on the RF output. Fl .700 .900
or direct current. If direct current is used, J [1]	2.32	or direct current. If direct current is used, J 2.320] 2.380
or direct current. If direct current is used, J [2]	2.38	or direct current. If direct current is used, J 2.320] 2.380
temperature. The temperature/frequency co	1	temperature. The temperature/frequency co- 10 Heater